

10/783,938

Amendments to the Specification:

Please replace the abstract with the following amended abstract:

An efficient method and system is provided for computing lithographic images that ~~may take~~ takes into account ~~non-scalar vector~~ effects such as lens birefringence, resist stack effects, and tailored source polarizations, and ~~may also include~~ blur effects of the mask and the resist. ~~These effects are included by forming a~~ A generalized bilinear kernel is formed, which is independent of the mask transmission function, and which may then be treated using a decomposition to allow rapid computation of an image that includes such non-scalar effects. ~~Dominant eigenfunctions of the generalized bilinear kernel can be used to pre-compute convolutions with possible polygon sectors. A mask transmission function can then be decomposed into polygon sectors, and w~~ Weighted pre-images may be formed from a coherent sum of ~~the pre-computed convolutions of the dominant eigenfunctions of the generalized bilinear kernel with~~ for the appropriate mask polygon sectors. The image at a point may be formed from the incoherent sum of the weighted pre-images over all of the dominant eigenfunctions of the generalized bilinear kernel. The resulting image can then be used to perform model-based optical proximity correction (MBOPC).

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